Central Nervous System
Alzheimer disease: beta-amyloid model

Alzheimer's disease is the most common age-related neurodegenerative disorder, characterized by the progressive degeneration of neuronal loss of memory and cognitive functions. In this sense the β-amyloid i.c.v injection rodent model induces cognitive deficits and neuroinflamation[1] and has been widely used as a pre-clinical suitable model to test potential new candidate to treat Alzheimer disease.

Species, strain, sex: *mice, Swiss, male*.
Others: upon request:
Number of animals/group: 10 - 12 animals
Routs of administration: β-amyloid i.c.v injection
Treatment mode: upon request

Main read-outs: object exploration time.
Facultative read-outs: locomotor activity, immunohistochemistry, western blotting analysis, RT-PCR analysis of biomarker messenger RNA, flow cytometry and others.

Validation Data

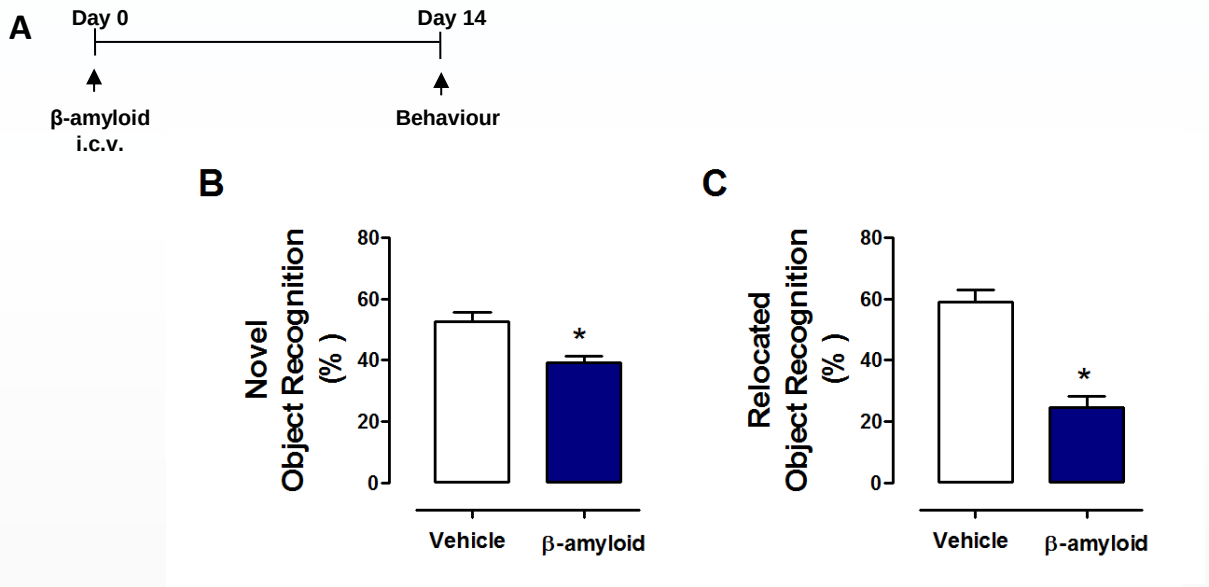

Figure 1: Memory impairment induced by β-amyloid$_{1-42}$ i.c.v. in Swiss mice. (A) Representative image of the protocol of administration and behavioral evaluation. The animals that received the peptide showed impairment in the (B) recognition test of the new object and (C) in the object relocation test. Each point or column represents the mean ± SEM of 10 mice per group.. Statistical analyses used was Studen's "t"test. * $P < 0.05$, versus vehicle group.

To avoid bias and to allow reproducibility all in vivo experiments follow the ARRIVE guidances[2]. Mice colony from Charles River Laboratories are breed and maintained in SPF conditions. The project includes study plan and final report. Raw data are inspected by quality assurance unity. The experimental procedures was previously approved by the CIEnP Committee on the Ethical Use of Animals.

References:

[1]Kim HY, Lee DK, Chung BR, Kim HV, Kim Y. Intracerebroventricular injection of amyloid-β-peptides in normal mice to acutely induced Alzheimer-like cognitive deficts. J Vis Exp. 16;(109), 2016.
[2]Kilkenny C, Browne WJ, Cuthill IC, Emerson M, Altman DG. Animal research: reporting in vivo experiments: The ARRIVE guidelines. PLoS Biol. 8 (6): e1000412, 2010.

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